

OPERATOR'S MANUAL

650500-B

INCLUDING: OPERATION, INSTALLATION & MAINTENANCE

ALSO INCLUDE MANUALS: PD02P-X DIAPHRAGM PUMP (PN 97999-680), 2752X-X MATERIAL REGULATOR (PN 97999-674), P292X1-XXX PIGGYBACK FILTER / REGULATOR (PN 100400-8), R272X1-XXX REGULATOR (PN 100400-6).

RELEASED: 10-1-96
REVISED: 6-22-10
(REV. B)

650500-B

LOW PRESSURE DELIVERY SYSTEM 1/4" DIAPHRAGM PUMP, 1:1 RATIO, 5 GALLON CONTAINER FOR USE WITH CONVENTIONAL HVLP / AIR SPRAY SYSTEMS (SPRAY GUN NOT INCLUDED)



**READ THIS MANUAL CAREFULLY BEFORE INSTALLING,
OPERATING OR SERVICING THIS EQUIPMENT.**

It is the responsibility of the employer to place this information in the hands of the operator. Keep for future reference.

SERVICE KITS

Use only genuine ARO replacement parts to assure compatible pressure rating and longest service life.

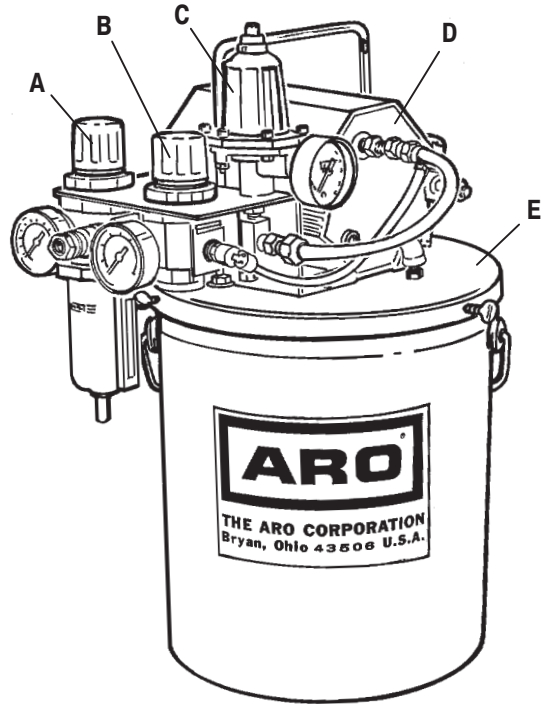
- Diaphragm Pump Rebuild Kit 637314-DT.
- Air Valve Repair Kit 637311.
- Pump Wet End Repair Kit 637313-DT.

Refer to the PD02P-X Operator's Manual for parts / repair and service information.

PUMP SYSTEM DATA

MODEL 650500-B Low Pressure Delivery System
PUMP MODEL PD02P-ADS-DTT
PUMP TYPE Non-Metallic Air Operated Double Diaphragm with acetal seats
MATERIAL Groundable Acetal
WEIGHT 20.5 (9.3 kgs)
AIR INLET 1/4" - 18 N.P.T.F.
AIR CONSUMPTION 1 c.f.m. per gallon (approximately)
MAX. AIR INLET PRESSURE 100 p.s.i.g. (6.9 bar)
MAX. OUTLET PRESSURE 100 p.s.i.g. (6.9 bar)
MAXIMUM FLOW RATE .. 4.6 g.p.m. (17.4 l/m)
MAXIMUM PARTICLE SIZE 1/32"
MAX. OUTPUT PER CYCLE .014 gallons (53 cc's)
MAXIMUM TEMP. LIMITS . 10° to 180°F (-12° to 82°C)
DIMENSIONAL DATA See page 3
NOISE LEVEL □ 59.8 db(A) @ 70 psi, 60 cycles per minute.

□ The pump sound pressure levels published here have been updated to an Equivalent Continuous Sound Level (L_{Aeq}) to meet the intent of ANSI S1.13-1971, CAGI-PNEUROP S5.1 using four microphone locations.



D001

FIGURE 1

MAJOR COMPONENTS LIST

* Operator's Manuals are provided, which cover parts and service information.

Item	Description	Qty	Part No.	Item	Description	Qty	Part No.
A	Modular Piggyback*	(1)	P29221-210	D	1/4" Diaphragm Pump*	(1)	PD02P-ADS-DTT
B	Modular Regulator*	(1)	R27221-100	E	Cover Assembly	(1)	67082
C	1/4 Sst / Carbide Regulator*	(1)	27520-400				

GENERAL DESCRIPTION

The 650500-B Portable Pumping System includes fittings, drum cover, regulators, siphon tube, gauges and hardware. It is intended to be used in conventional HVLP (High Volume Low Pressure) spray systems. These systems generally operate using low material pressure (less than 30 p.s.i.), and when complimented with the proper gun, it produces a "soft spray".

Read the information included with the spray gun for system settings and operation information.

The diaphragm pump uses acetal seats, PTFE checks and diaphragms and is designed to be used with waterborne paints. The gun and low pressure air and material hoses are not included. (Continued)

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PARTS LIST / 650500-B

Item	Description (Size in inches)	(Qty)	Part No.	Item	Description (Size in inches)	(Qty)	Part No.
1	Plug – Agitator mount	(1)	91143	16	Male Elbow (1/4" o.d. tube – 1/4"-18 male thd)	(2)	59745-156
2	Bracket	(1)	94040	17	5 Gallon Pail	(1)	93184
3	Adapter (3/8"-18 male x 1/4"-18 male)	(1)	90538	18	Bail	(1)	94037
4	Adapter (1/4" – 18 NPTF)	(3)	1950	19	Tubing (1/4" o.d. x 8-1/2" long)	(1)	59675-100 ○
5	45° Street Elbow (1/4" – 18 NPT)	(2)	Y158-1-C	20	Street Elbow (3/8" – 18 NPTF)	(2)	Y43-3-S
6	Connector	(1)	23902-210	21	Siphon Tube	(1)	94512
7	Gauge (0 – 60 p.s.i.)	(1)	100090	22	Bolt (1/4" – 20 x 1")	(4)	Y6-45-T
8	Gauge (0 – 160 p.s.i.)	(1)	100091	23	Washer (.281" i.d. x .625" o.d.)	(4)	93096
9	Coupling (1/4" – 18 NPT)	(1)	Y43-42-C	24	Nut (1/4" – 20)	(4)	Y12-4-S
10	Tee (1/4" – 18 NPTF)	(1)	94039	25	Nut (5/16" – 18)	(2)	Y12-5-S
11	Gauge (0 – 30 p.s.i.)	(1)	93769	26	Flange Nut (5/16" – 18)	(2)	93886
12	Thumb Screw	(3)	94078	27	Nut	(1)	94036
13	Tube (12" long)	(1)	628091-1	28	Roll Pin (.094" o.d. x .250" long)	(1)	Y178-18-S
14	Nut	(2)	100022	29	Elbow (1/4" – 18 NPTF)	(1)	94044
15	Coupler	(1)	23102-200	30	Ground Kit Assembly (not shown)	(1)	66885-1

○Tube is available in bulk quantities only.

GENERAL DESCRIPTION (CONTINUED)

Consult your sales representative for the proper low pressure gun and other accessories which will best match the application. The drum cover features a mount for locating an agitator (pn 651100), which is available separately.

Theory of operation:

HVLP (High Volume, Low Pressure) is a spray process which uses a high volume of air (15 – 22 c.f.m.) at a low pressure (10 p.s.i. or less) to

atomize the material, producing both high transfer efficiency (the total percent of material that actually stays on the intended surface) and a quality finish. The air cap of the HVLP gun injects air into the fluid after it passes through the orifice restriction. The low velocity of the material being sprayed minimizes the over-spray and bounce-back that is associated with conventional air spray.

OPERATING INSTRUCTIONS

⚠WARNING DO NOT EXCEED MAXIMUM OPERATING PRESSURE OF 100 P.S.I. (6.9 BAR) AT 100 P.S.I. (6.9 BAR) AIR INLET PRESSURE.

⚠WARNING READ THE PUMP MANUAL FOR ADDITIONAL OPERATING AND SAFETY PRECAUTIONS AND OTHER IMPORTANT INFORMATION.

INITIAL SETUP PROCEDURE

NOTICE

REFER TO THE INFORMATION INCLUDED WITH THE LOW PRESSURE HVLP GUN FOR SYSTEM SETUP INFORMATION. THE SYSTEM IS INTENDED FOR LOW PRESSURE APPLICATION ONLY.

- Attach air supply hose, gun and low pressure material hose.
- Install the connector to the air supply hose.
- Attach the ground wire to a suitable ground.
- The gun air supply hose must be 5/16" i.d. minimum.
- Keep containers covered to prevent contamination.
- When using an agitator, install a "T" at the air inlet or use a separate air supply source.

Nominal system settings:

- Pump Outlet Material Pressure – 15 p.s.i. maximum.

- Spray Gun Air Pressure – 60 p.s.i. maximum. Note: At 30 p.s.i. nominal setting it will deliver approximately 8 p.s.i. at the air cap when using 5/16" i.d. x 15' long air hose.
- Set air pressure to the pump at approximately 2x (two times) the operating material pressure. For example: If 15 p.s.i. material pressure is required, adjust the pump air regulator/gauge pressure to approximately 30 p.s.i. Use the material pressure regulator to adjust. Control the spray gun air volume using the air regulator.

START-UP

1. Turn the knob on the air regulator counterclockwise to zero p.s.i.
2. Place pump and cover (with gun and hose attached) onto the container of material.
3. The operating pressure should be set at the lowest needed to atomize and deliver the paint. Start with the gun material pressure about the same as the air supply and adjust up or down to set the pattern.
4. Start the pump to cycle by turning the air regulator knob clockwise. The pump will cycle several strokes until pressure is built up in the system, at which time it will stop. Check for any loose fittings or leakage.

